NUTRIENT REDUCTION

ACTION	LEAD	CONTRIBUTOR	COLLABORATOR	WHAT WILL YOU DO / DELIVER?	REFINED OUTCOME	KEY NEXT STEPS
N-1 Increase regional coordination in the development of nutrient criteria						
36-Month Outcome: • Establish a Gulf of Mexico Alliance Nutrient Criteria Coordination Team of state and federal representatives to meet the needs of the Gulf States through improved coordination among existing local, state, regional, and national nutrient reduction programs.						
Action Blueprint:						
1. Convene the Coordination Team and a technical conference to synthesize the state of knowledge regarding nutrient levels and develop a plan for regional coordination.	Mississippi, EPA	Alabama, Florida, Louisiana, Texas	NOAA, USGS, USFWS, NSF	MS will provide support and host or cohost the initial conference. EPA, in support of the State lead, will assume the responsibility for convening the Coordination Team and implementing the conference outlined in this action. NOAA will serve as a member on the Nutrient Criteria Coordination Team, if asked by the Alliance (Lead: NOS NCCOS) NOAA will assist assist the Gulf State Coastal Nonpoint Program coordinators in participating in the Coordination Team (Lead: NOS OCRM) USGS will participate on the Coordination Team. USFWS will participate in the development of the plan for regional coordination through the Gulf of Mexico Program. NSF will send a representative to the conference. AL will participate as resources allow. FL will participate as resources allow. LA will participate as resources allow. TX will participate as resources allow.	1. Convene the Coordination Team and begin a series of technical conferences to synthesize and share the state of knowledge regarding nutrient levels; 2. Develop a plan for regional coordination of nutrient criteria development.	**N1:A.1. 1** Identify key state, federal and NGO representatives and contact information for each state and federal partner. (USGS, NERRS, NEPs, IOOS) for technical conference **N1:A.1.2** Schedule and support technical conference that includes presentations on NGNPP, status of pilot database, chlorophyll methodologies, and plan for the larger state of knowledge conference. **N1:A.1:3** Identify the participants and presenters necessary to host technical conference to share nutrient data and information. **N1:A.1.4** Determine funding needs and sources as well as logistics for technical conference. **N1:A.1.5** Develop a plan for regular conference calls and meetings to determine next steps. **N1:A.1.6** Conduct conference Oct-Nov **N1:A.1.7** Disseminate information gained from conference. **N1:A.1.8** Develop regional coordination plan outline for Nutrients Coordination Team comments and finalize by December 2006. **N1:A.1.9** Technical presentation on Chlorophyll methodologies

2. Complete and transfer knowledge gained from the Northern Gulf Estuarine Pilot Project and identify one or more estuaries to apply the methods and lessons learned from the Northern Gulf Estuarine Pilot Project.	EPA	Louisiana, Mississippi	NOAA	EPA will assume the responsibility for establishing and implementing a regional communications plan for this action. At the direction of the State lead(s), EPA will help facilitate the identification of at least three targeted estuaries (one in each of the northern Gulf States) for trial application of the lessons learned through the course of this study. Additionally, EPA will develop and submit, on behalf of the Gulf States, a Regional Applied Research Effort (RARE) proposal in attempt to help further implement this methodology. MS will use the knowledge gained to apply to a MS estuary. LA will participate as resources will allow.	2. Use the technical conferences to transfer knowledge gained from the Northern Gulf Estuarine Pilot Project	**N1:A.2.1** Use July 2006 meeting to begin discussions on expanding the Northern Gulf Estuarine Pilot Project (NGEPP) to TX and FL **N1:A.2.2** Schedule a meeting of all 5 states to discuss consolidating the NGEPP approach with the Gulf Alliance Nutrient Coordination Team. **N1:A.2.3** Make NGEPP pilot final report available to Gulf States. **N1:A.2.4** Evaluate and present to the Coordination team opportunities for partnership with IOOS/GCOOS activities.
3. Identify and coordinate federal, state, and local monitoring efforts and data management systems to support development of nutrient criteria.	Florida	Louisiana, Mississippi	EPA, USGS, NOAA	MS will provide in-kind support. EPA will coordinate with State monitoring and data management programs to help support this action. USGS will collaborate in coordinating monitoring efforts and information management. NOAA will provide coordination and technical support (Lead: NESDIS NCDDC) LA will participate as resources will allow.	3. Identify and coordinate federal, state, and local monitoring efforts and data management systems to support development of nutrient criteria.	**N1:A.3.1** Survey key stakeholders to identify monitoring programs and data management systems and propose a format and content that best assist states with nutrient criteria development. **N1:A.3.2** Provide forum for states and federal partners to review initial list of programs and discuss status and needs related to monitoring and data need for the development of nutrient criteria. (Oct-Nov) **N1:A.3.3** Develop final report of existing monitoring efforts and data management systems to support development of nutrient criteria **N1:A.3.4** Nutrient Coordination Team will review report and identify gaps in monitoring efforts and data management systems, resources needed to fill those gaps, and key partnership opportunities. **N1:A.3.5** Determine methods to improve consistency and continuity of existing monitoring efforts. **N1:A.3.6** Invite presentations by data holders for a Technical Conference on monitoring programs and data management systems that support development of nutrient criteria

4. Present a comprehensive assessment of Gulf nutrient monitoring program needs to the National Water Quality Design Team.	EPA	Louisiana, Mississippi	USGS, NOAA	EPA will assume a co-lead responsibility, with the Alliance's State lead, to conduct the regional assessment and present the findings and recommendations to the National Water Quality Design Team. MS will send staff to participate. USGS will participate in the assessment. LA will participate as resources will allow.	4. Present a comprehensive assessment of Gulf nutrient monitoring program needs to the National Water Quality Design Team.	**N1:A.4.1** Schedule workshop and a series of conference calls and meetings to review proposed monitoring system design team's report and evaluate its application to Gulf State needs. **N1:A.4.2** Develop methods to evaluate existing monitoring efforts, identify gaps and needs and use contract support to produce a comprehensive assessment that meets the approval of all states. **N1:A.4.3** Work with IMDC Project Team to present Coordination Team's findings to the National Water Quality Design Team **N1:A.4.4** Based on Gulf resources and needs, prioritize filling monitoring gaps to reach ideal monitoring system for nutrient criteria development
5. Inventory modeling needs to deal with nutrient issues under permitting, TMDL development, and nutrient criteria development.	Florida	Louisiana, Mississippi	EPA, USACE, USGS, NOAA	MS will provide in-kind support. EPA will provide technical guidance and direction on how to address TMDL and Water Quality Standards (WQS) development. Additionally, EPA will help facilitate the completion of the modeling inventory action. USACE will contribute input to this inventory from the recent Mississippi River Modeling Assessment Forum (July 05), and any follow-on efforts. USGS will assist in identifying appropriate modeling techniques. NOAA will support this action (Lead: NESDIS NCDDC) LA will participate as resources will allow.	5. Inventory modeling needs to deal with nutrient issues under permitting, TMDL development, and nutrient criteria development	**N1:A.5.1** Identify existing modeling efforts and capabilities. **N1:A.5.2** Determine the need for individual state conferences to identify needs. **N1:A.5.3** Share information gained from state conferences in a combined setting. **N1:A.5.4** Incorporate inventory from MS River Modeling Assessment Forum (USACE) **N1:A.5.5** Identify strengths and weakness of existing models, especially issues with methodologies, data gaps and missing parameters **N1:A.5.6** Identify applications of existing models based on ecological or regional specificity **N1:A.5.7** Combine with A4 and technical conference for monitoring
6. Develop a library/database of marine and estuarine species for site specific D.O. criteria development.	EPA			EPA will assume the responsibility for developing this database action.	6. Develop a library/database of marine and estuarine species for site specific D.O. criteria development.	**N1:A.6.1** Develop contract support of this activity in cooperation with the Region 4 Virginian Provence DO criteria guidance and data **N1:A.6.2** Identify and review existing nutrient TMDL development to evaluate approaches and criteria effectiveness for nutrient quantitative criteria

NUTRIENT REDUCTION

ACTION	LEAD	CONTRIBUTOR	COLLABORATOR	WHAT WILL YOU DO / DELIVER?	PROPOSED REFINED OUTCOME	PROPOSED KEY NEXT STEPS
N-2: Implement nutrient reduction activities during Gulf recovery and rebuilding						
36-Month Outcome: • Implement nutrient prevention and reduction activities in Gulf communities improving or rebuilding infrastructure. ****Proposed Refined Outcome** -- Develop a clearinghouse of information on successful implementation nutrient prevention and reduction activities in Gulf communities improving or rebuilding infrastructure.						
Action Blueprint:						
1. Identify key coastal watersheds with significant nutrient impacts, sensitive waters, and a high likelihood of successful restoration of fishing and recreational uses.	Identification of Lead still pending.	Louisiana, Mississippi, USGS, USFWS, NOAA,	EPA	USGS will contribute to a coastal watershed assessment. USFWS will provide technical support to a coastal watershed assessment. NOAA will cull this information out of the Estuarine Eutrophicaton Assessment update due out Dec. 2005 and provide it to the Alliance. (Lead: NOS NCCOS) MS will provide funding and in-kind support. EPA will support and assist the Nutrient Coordination Team in the assessment and identification actions outlined, with particular emphasis on the Gulf States' 303(d) listed waters embedded in the priority coastal watersheds. LA will lead this action within Louisiana.	1. Identify key coastal watersheds with significant nutrient impacts, sensitive waters, and a high likelihood of successful restoration of fishing and recreational uses.	**N2:A.1.1** Work with key state leads to evaluate & identify estuaries and coastal water bodies with nutrient impairments **N2:A.1.2** Utilize state, local and regional recovery efforts to identify possible recovery efforts that might mitigate nutrient impacts **N2:A.1.3** Solicit appropriate representative to present state, regional and/or local rebuilding efforts and priorities at the technical conference.
2. Identify communities conducting infrastructure rebuilding activities where nutrient reduction can be achieved through improved infrastructure planning and design.	MS	Louisiana, Mississippi, EPA,	NOAA	In support of the identification and assessment, EPA will provide listings of those Gulf States funded DWSRF and CWSRF projects. Additionally, EPA will provide listings of the Gulf States SPAPs as they relate to their coastal zones. MS will provide funding and in-kind support. NOAA will facilitate the involvement of appropriate state personnel (coastal managers and Coastal Nonpoint Program Coordinators) and provide policy advice and guidance directly and through other federal partners (such as EPA's Office of Water and the Smart Growth Program). (Lead: NOS OCRM) LA will participate as resources will allow.	2. Identify communities' conducting infrastructure rebuilding activities where nutrient reduction can be achieved through improved infrastructure planning and design.	**N2:A.2.1** Compile a summary of rebuilding activities in states with significant rebuilding activities. **N2:A.2.2** Work with key state and federal leads to rank or prioritize rebuilding projects.

3. Identify and prioritize implementation and coordination opportunities for existing federal, state, and local programs in key coastal watersheds and communities conducting infrastructure rebuilding activities.	Identification of Lead still pending.	NOAA, USGS, USFWS, EPA, Louisiana, Mississippi		Working through Sea Grant, NOAA will extend the Nonpoint Education for Municipal Officials (NEMO) program throughout the Gulf of Mexico, specifically using the Nonpoint Source Pollution and Erosion Comparison Tool (N-SPECT), and the Impervious Surface Analysis Tool (ISAT) (Lead: NOAA CSC, an EGT07 action) If asked by Gulf states, NOAA will revise funding guidance to direct federal resources to nutrient issues in priority watersheds identified by the states. (Lead: NOS OCRM) USGS and USFWS will assist in identifying and prioritizing watershed enhancement opportunities. In support of the identification and assessment, EPA will provide listings of those Gulf States funded DWSRF and CWSRF projects. Additionally, EPA will provide listings of the Gulf States SPAPs as they relate to their coastal zones. MS will provide funding and in-kind support. LA will participate as resources will allow.	3. Identify and prioritize implementation and coordination opportunities for existing federal, state, and local programs in key coastal watersheds and communities conducting infrastructure rebuilding activities.	**N2:A.3.1** Work with state leads to determine needs for and type of support.
4. Provide technical assistance to interested local governments to improve infrastructure planning and design.	Identification of Lead still pending.	EPA, NOAA, USFWS, Louisiana, Mississippi		In support of the identification and assessment, EPA will provide listings of those Gulf States funded DWSRF and CWSRF projects. Additionally, EPA will provide listings of the Gulf States SPAPs as they relate to their coastal zones. NOAA will provide initial Coastal Change Analysis Program (C-CAP) land cover data set for the Gulf of Mexico, contracted to be delivered at the end of FY06 (Lead: NOAA CSC, an EGT07 action, and NOS OCRM) USFWS will provide technical assistance to local governments seeking to improve infrastructure planning and design. MS will provide funding and in-kind support. LA will participate as resources will allow.	4. Provide technical assistance to interested local governments to improve infrastructure planning and design.	**N2:A.4.1** Work with federal partners to identify the array of technical assistance available. **N2:A.4.2** Use contract support to summarize technical support available and provide to state, regional and local contacts **N2:A.4.3** Evaluate the need to establish additional monitoring activities around areas conducting significant rebuilding efforts.

5. Evaluate the effectiveness of nutrient reduction activities in key coastal watersheds and rebuilding communities and develop techniques to improve effectiveness.	Identification of Lead still pending.	USGS, EPA, Louisiana, Mississippi	NOAA	USGS will help define objective analyses and measures of the nutrient reduction success. EPA will support and assist the Nutrient Coordination Team in assessing the effectiveness of current nutrient reduction actions and, will provide technical assistance in the development and pilot implementation of improved techniques. MS will provide funding and in-kind support. LA will participate as resources will allow.	5. Evaluate the effectiveness of nutrient reduction activities in key coastal watersheds and rebuilding communities and develop techniques to improve effectiveness.	**N2:A.5.1** Determine the need for and encourage monitoring programs to document the improvements resulting from rebuilding activities.
6. Map communities served by advanced wastewater treatment systems to help develop strategies for remediation activities.	EPA	NOAA, Louisiana, Mississippi		EPA will assume the responsibility for this mapping action. NOAA will provide their version of these data to the Alliance (Lead: NOS SP) MS will provide in-kind support. USACE will help integrate this information into the collaborative data management / GIS efforts discussed under the Action ID-1. LA will participate as resources will allow.	6. Map communities served by advanced wastewater treatment systems to help develop strategies for remediation activities	**N2:A.6.1** Develop contract support to gather existing data for each state's coastal areas. **N2:A6.2** Use existing data to determine data gaps. **N2:A.6.3** Develop plan to address data gaps **N2.A.6.4** Present results to State leads for comment prior to dissemination

NUTRIENT REDUCTION

ACTION	LEAD	CONTRIBUTOR	COLLABORATOR	WHAT WILL YOU DO / DELIVER?	PROPOSED REFINED OUTCOME	PROPOSED KEY NEXT STEPS
N-3: Assert an aligned, five Gulf State position on the need to address Gulf of Mexico hypoxia						
36-Month Outcome: • Develop and represent a consistent five Gulf State position on the need to reduce Gulf hypoxia, in venues such as the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force.						
Action Blueprint:						
1. Assist in the completion of a comprehensive assessment of the Gulf Hypoxia Action Plan.	Louisiana, Mississippi	NOAA, EPA	USGS, USFWS, MMS, NSF	NOAA is represented on the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, the Task Force Coordination Committee, the Science Reassessment Team responsible for collating a bibliographical resource for the Science Advisory Board involved in the Gulf Hypoxia Action Plan assessment, the Monitoring, Modeling, and Research Workgroup which coordinates the Science Reassessment Team, and the Steering Committee for the Gulf of Mexico Hypoxia Symposium. (Lead NOS NCCOS) As Chair of the Mississippi River / Gulf of Mexico Hypoxia Task Force and, in cooperation with its many federal partners on the Task Force, EPA will provide broad support (technical and administrative) to the completion of the scheduled assessment of the Gulf Hypoxia Action Plan. MS and LA, as members of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, will advise the other Gulf states on the status of the Gulf Hypoxia Action Plan. USGS and FWS will help implement actions to achieve desired outcomes. MMS has information to contribute to this issue.	1. Assist in the completion of a comprehensive assessment of the Gulf Hypoxia Action Plan	**N3:A.1.1** MS & LA continue to participate. **N3.A.1.2** Present update on reassessment at first Nutrient Reduction technical conference. **N3.A.1.3** Seek feedback form other states.

2. Help bring focus and expertise to the Gulf region by assisting with the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force Sub-basin Committee Symposium and the Gulf of Mexico Hypoxia Symposium (spring 2006).	Louisiana, Mississippi	NOAA, USACE, EPA	USGS, USFWS, MMS, NSF	Symposium workshop in spring 2006 to evaluate the current scientific understanding of factors influencing hypoxia in the Gulf of Mexico, and to assess the appropriateness of models used to guide management activities for reducing hypoxia in the region. The meeting is part of the adaptive management strategy of the 2001 Action Plan for Reducing, Mitigating and Controlling Hypoxia in the Northern Gulf of Mexico. Proceedings papers will be distributed to an expert panel of the Science Advisory Board of EPA as a resource for their evaluation of management strategies. (Lead NOS NCCOS) USACE will partner with the EPA in sponsoring the Lower Basin Symposium; and partner with the USGS in sponsorng the Sources, Fate & Transport Symposium. EPA will co-sponsor and provide technical support to both the Lower MS River Sub-basin Committee and Gulf Science Symposia. MS and LA, as members of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, will advise the other Gulf states on the status of the Gulf Hypoxia Action Plan. USGS and FWS will help implement actions to achieve des MMS has information to contribute to this issue.	2. Help bring focus and expertise to the Gulf region by assisting with the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force Sub-basin Committee Symposium and the Gulf of Mexico Hypoxia Symposium.	**N3:A.2.1** Invite Lower MS River Sub-basin coordinator to participate on the Nutrient Coordination Team. **N3:A.2.2** Include Sub-basin update at the first Nutrient technical conference. **N3:A.2.3** Participate in the fate and transport symposia planned by USGS **N3:A.2.4** Support NOAA conference on long-term integrative monitoring program
3. Provide Gulf State information on point and non-point source pollution to the Mississippi River Basin and the ecological and economic impacts of the Gulf of Mexico Hypoxic Zone on natural resources such as fish and shellfish.	Identification of Lead still pending.	NOAA, EPA, Mississippi	USGS, USFWS	Assessment Program (NGOMEX), NOAA will support multi-year, interdisciplinary research projects to develop a fundamental understanding of the northern Gulf of Mexico ecosystem in the region affected by Mississippi River inputs with a focus on the causes and effects of the hypoxic zone over the Louisiana continental shelf and the prediction of its future extent and impacts on ecologically and economically important species. The research program is directed towards the goal of developing a predictive capability for the Louisiana continental shelf ecosystem within an adaptive management framework that connects monitoring, data analysis, model predictions and management actions with continuous feedback for improvement in each category. This will allow for the assessment of alternative management strategies for Mississippi River nutrient loads within the context of long-term changes in eutrophication and hypoxia. (Lead: NOS NCCOS) EPA will provide the Gulf States partnership with available water quality monitoring and analysis data and information the Agency relevant to point and non-point source pollution River Basin. Additionally, EPA will provide information and in the use of CWSRF as an alternative financing strategy fo MS will provide in-kind support.	3. Compile Gulf State information on point and non-point source pollution to the Mississippi River Basin and the ecological and economic impacts of the Gulf of Mexico Hypoxia Zone on natural resources such as fish and shellfish.	**N3:A.3.1** Work with gulf and MS River Basin States to assess current data on loadings from significant tributaries within those states. **N3:A.3.2** Use contract support to collect existing point and nonpoint data, determine data gaps, and priorities for filling gaps. **N3:A.3.3** Invite nutrient coordinators from Regions 5, 7 to participate with gulf alliance effort. **N3:A.3.4** Create a map of point and non-point pollution to the Mississippi River Basin that is indicative of contribution and sources **N3:A.3.5** Review original hypoxia assessment document and evaluate as starting point for inventory of point and nonpoint sources to the MS River Basin **N3:A.3.6** Compile summary of regional economic and socio-economic impacts of the Gulf hypoxia zone **N3:A.3.7** Updates on recent research projects and grants

4. Establish effective Mississippi River Basin-wide agricultural partnerships to better facilitate strategic voluntary nutrient reductions.	Identification of Lead still pending.	EPA, Mississippi	USGS, USFWS	EPA will provide cooperative funding and technical assistance to the currently active Mississippi River Sub-basin teams (i.e., Upper-MS, Lower-MS, and Ohio) to better facilitate voluntary nutrient reductions through strategic "producer partnership" initiatives. MS will provide in-kind support. USGS and USFWS will help implement actions to achieve desired outcomes	4. Promote and support effective agricultural partnerships to better facilitate strategic voluntary nutrient reductions.	**N3:A.4.1** Work with NRCS, Farm Bureau and other agricultural interest to identify key participants and solicit their input and participation **N3:A.4.2** Document success stories in each of the Gulf States **N3:A.4.3** Use successes as a platform to expand the effort. **N3:A.4.4** Coordinate with advocacy groups like Industry Led Solutions to learn from their on-the ground projects to reduce nutrient inputs **N3:A.4.5** Nutrient trading issue **N3:A.4.6** Sub-basin demonstration projects **N3:A.4.7** Establish website to disseminate success stories, resources, bmps, etc
5. Provide annual forecasts of the extent of the hypoxic zone to guide fishing industries and establish a basis for evaluating the validity of hypoxic zone model predictions.	Identification of Lead still pending.	NOAA		NOAA provides annual forecasts of the size of the hypoxic zone using a dissolved oxygen model driven by river nitrogen load. (Lead NOS NCCOS)	5. Document localized and regional hypoxic events to better determine the extent and trends of Gulf Hypoxia in order to develop an alliance position on the impact and importance of hypoxic events on the Gulf of Mexico states	**N3:A.5.1** Work with key state reps on identifying local areas of hypoxia **N3:A.5.2** Work with NOAA to document trends for Gulf hypoxia **N3:A.5.3** Compile information into Gulf position paper